

Sassan Azadi

Semnan University, Department of Electrical Engineering, Semnan, Iran

Tel: (0098) 9123218743

azadieng@yahoo.com sazadi@semnan.ac.ir

Objective: Faculty position in the field of Electrical Engineering at Semnan University

Education:

Ph.D.: Biomedical Engineering, Tarbiat Modares 2002

Thesis: "Designing Adaptive Controls for a Cardiovascular System"

Transfer from: Rensselaer Polytechnic Institute, New York

GPA: 4.0/4.0

M.S.: Neuroscience, Syracuse, New York, 1992-1995

Thesis: "Critical Review of the Literature Pertaining to the Modeling of Pacinian Corpuscles"

M. S.: Electrical Engineering, Polytechnic University, New York

GPA: 4.0/4.0

B.S.: Electrical Engineering, Sharif University, Tehran, Iran, 1980-1983

GPA: 17.20/20.0 (ranked 1st in Control Engineering)

Accomplishments:

Proposing a direct adaptive controller named "**Azadi Controller**" based on physiology data, patented, and published several papers.

Research works: Image processing, Robotics, Control, and Biomedical Engineering.

Excellent in speaking and writing English with seven years of experiences in the U.S.

Teaching courses:

A) Biomedical Engineering:

- 1) Mathematical modeling of physiological systems
- 2) Neuroscience
- 3) Computational Neuroscience
- 4) Image Processing Techniques in Biomedical Engineering
- 5) Bioinstrumentations
- 6) Anatomy and Physiology with biomedical applications

B) Electrical Engineering:

- 1) Technical English for Electrical & Computer Engineering
- 2) Technical English Writings
- 3) Industrial Control
- 4) Linear Control Theory
- 5) Electrical Circuits
- 6) Electrical Measurements
- 7) Circuit and Systems
- 8) Advanced Engineering Mathematics
- 9) Numerical Analysis
- 10) Advanced Robotics
- 11) Mechatronics I
- 12) Mechatronics II
- 13) Linear Control Laboratory
- 14) Electronic Laboratory.
- 15) Adaptive Control Systems
- 16) System Identifications

Experiences:

Assistant Professor in the field of Biomedical & Electrical Engineering, Semnan University 2002-Present.

Leading three Ph.D. students in the field of Biomedical and Electrical Engineering.

Leading 30 M.S. Electrical Engineers.

Key speaker and managing of several International conferences.

13 years of teaching and research experiences.

Having grade of 19.5/20 student evaluations implying good authority in teaching experience.

Eight years of living in the U.S. indicating good English accent with good writing skills.

Reviewing more than 30 IEEE Transaction papers

Work as an Electrical Engineer in Tehran and US for five years.

High School Teacher, Tehran 1978-1980

Publications:

Conferences:

Sassan Azadi, Hamid Reza Momeni, "Utilizing an Adaptive Controller for a Cardiovascular Model with Unmodelled Dynamics" in the 8th International Electrical Engineering Conference, Isfahan.

Sassan Azadi, Hamid Reza Momeni, "Application of a Fuzzy Logic Controller for a Cardiovascular System" in the 10th International Biomedical Engineering Conference

Ismail Razi, **Sassan Azadi**, "Presenting a Novel Algorithm for Moving Object Detection", Proceeding of the 6th ICEENG Conference, 27-29 May 2008.

Mohsen Fallahi, **Sassan Azadi**, "Robust Control of DC Motor Using Fuzzy Sliding Mode Control with PID Compensator", 11th IEEE International Conference on Environment and Electrical Engineering, Italy, 2012.

Mohsen Fallahi, **Sassan Azadi**, "Fuzzy PID Sliding Mode Controller Design for the Position Control of a DC Motor", International Conference on Signal Processing Systems, ICETC 2009, Singapore, pp. 73-77.

Mohsen Fallahi, **Sassan Azadi**, "Adaptive Control of an Inverted Pendulum using Adaptive PID Neural Network", International Conference on Signal Processing Systems, Singapore, ICETC 2009, pp. 589-593.

Sassan Azadi, "Presenting an Adaptive Controller Based on Positive Feedback", ICAFS-2010, Prague, Czech, August 27-29, 2010.

Abbas Nasrabadi, **Sassan Azadi**, Javad Haddadnia, "Proposing an Approach for Face Detection Based on Gaussian Color Filters with Template Matching", Proceeding of the 6th ICEENG Conference, 27-29 May 2008.

Hadi Rezaei, **Sassan Azadi**, "Nonrigid Medical Image Registration using Hierarchical Particle Swarm Optimization", 5th International Conference on Soft Computing, Computing with Words and Perceptions in System Analysis, Decision and Control, Famagusta, North Cyprus 2-4 Sep., 2009.

Hadi Rezaei, **Sassan Azadi**, Majid Shakeri, Keyvan Jaferzade, "Multimodality Image Registration Utilization Ant Colony Algorithm", 2nd International Conference on Machine Vision (ICMV 2009).

Hadi Rezaei, **Sassan Azadi**, Mina Ghorbani, "A Hybrid Particle Swarm/Steepest Gradient Algorithm Forelastic Brain Image Registration", 2nd International Conference on Machine Vision (ICMV 2009).

Sassan Azadi, "Introducing a Simple Adaptive Controller (**Azadi Controller**) Based on Positive Feedbacks", Mianyang, China, 2011 Chinese Control and Decision Conference (CCDC 2011), 23 - 25 May 2011.

Mostafa Marandi, **Sassan Azadi**, "Design of an Adaptive Neuro-Fuzzy Position Controller for a Pneumatic System", Proceeding of the International Conference on Man-Machine System, ICoMMS, 11-13, Malaysia, pp. 5B9-1:5B9-6, Oct. 2009.

Sassan Azadi, Mosa Nori, "Utilizing **Azadi Controller** to Stabilize the Speed of a DC Motor", International Conference on Advanced Mechatronic System (ICAMechS2012), September 18-22, 2012.

Seyed Masoud Jamshidi, **Sassan Azadi**, "Tracking Pedestrians based on Patch Matching", Bulletin de la Société Royale des Sciences de Liège, Vol. 85, pp. 1211 – 1218, 2016.

Mohammad Souri, **Sassan Azadi**, "Improving BCI Performance using SSA and GA", Bulletin de la Société Royale des Sciences de Liège, Vol. 85, pp. 1211 – 1218, 2016. Mohammad Zamani, **Sassan Azadi**, "Noise Reduction in Medical X-ray Images Using Wavelet and Neural Networks", 5th International Conference on Electrical and Computer Engineering with emphasis on native knowledge, Ieeec.Ir, Feb. 2018, Tehran, Iran.

Mehdi Asadi, **Sassan Azadi**, "Renal Vessel Segmentation using Multiscale and Morphological Methods", 3rd International Conference on Electrical Engineering, ice-ir, Sep. 2018, Tehran, Iran.

Journals:

Sassan Azadi, Hamid Reza Momeni, "Utilizing an Adaptive Controller for a Cardiovascular System", J. of Esteghlal, Isfahan, Feb. 2002.

Sassan Azadi, Hamid Reza Momeni, "Utilizing a Direct Model Reference Adaptive Controller for a Cardiovascular System", Iranian Journal of Science and Technology, Vol. 26, 2002. Volume 26 Issue B4, pp. 673 – 678, Dec. 2002.

Sassan Azadi, "Utilizing an Adaptive Controller (**Azadi Controller**) for Trajectory Planning of PUMA560 Robot", Journal of Advanced Materials Research Vols. 403-408 pp. 4880-4887, Switzerland, Nov. 2012.

Sassan Azadi, Esmaeil Pourjam, Alireza Nikkerdar, Mostafa Sharifi, "Real-Time Object Tracking using Gradient Vector Flow". PRZEGLĄD ELEKTROTECHNICZNY (Electrical Review), Vol. 89, pp. 280-283, Jan. 2013.

Asghar Safaridoust, **Sassan Azadi**, "A Tailless Coaxial Helicopter with Combination of Balancer and Gyroscope Mechanism", J. Basic. Appl. Sci. Res., Vol. 3, No. 1, pp. 783-791, 2013.

Sassan Azadi, Alireza Nikkerdar, Mosa Nouri, "Utilizing **Azadi Controller** (Positive Feedback) to Suppress the Vibrations of a DC Motor", J. Basic. Appl. Sci. Res., Vol. 2, No. 10, pp. 10498-10507, Oct. 2012.

Sassan Azadi, Ashkan Aghaei, Mohammad Ali Hajimousa, "Comparing **Azadi Controller** with Several Optimal Controllers", J. Basic. Appl. Sci. Res., Vol. 2, No. 2, pp. 792-801, Feb. 2013.

Sassan Azadi, Bakeh Hlimberdi, "Design of a Controller for Suppressing the Stick-Slip Oscillations in Oilwell Drillstring", Research Journal of Recent Sciences, Vol. 2, No. 10, pp. 78-82, June 2013.

Ashkan Aghaei, **Sassan Azadi**, "Optimizing **Azadi Controller** with CAO", International J. of Computer Applications (0975-8887), Vol. 61, No. 8, Jan. 2013.

Sassan Azadi, Mosa Nouri, "Utilizing **Azadi Controller** to Stabilize the Speed of a DC Motor", International Conference on Advanced Mechatronic System (ICAMEchS2012) September 18-22, 2012.

Mojtaba Moradi, Ali Nikoobin, **Sassan Azadi**, "Adaptive Decoupling for Open Chain Planar Robots", Transaction B: Mechanical Engineering, vol.23, No.6, Scientia Iranica, pp. 376-386, Oct. 2010.

Sassan Azadi, M Moradi and A Esmaili , "Optimal Balancing of PUMA-Like Robot in PredefinedP", Journal of Scientific & Industrial Research Journal of Scientific & Industrial Research, Vol. 74, pp. 209-211, April 2015.

Sassan Azadi, "Strengthening Smith Predictor Robustness via **Azadi Controller** (Positive Feedback)", Journal of Scientific & Industrial Research Vol. 74, pp. 438-443, August 2015.

Hossein Rastgoo, **Sassan Azadi**, "Improving Decoding of the Mental Activities in BCI Systems using Overlapping FBCSP", Journal of Scientific & Industrial Research, JSIR 75(2), pp. 95-99, Feb. 2016.

Reza Yaghoobi Karimu, **Sassan Azadi**, "Lossless EEG Compression using the DCT and the Huffman Coding", Journal of Scientific & Industrial Research, JSIR Vol. 75, pp. 615-620, Oct. 2016.

Reza Yaghoobi Karimu, **Sassan Azadi**, "Diagnosing ADHD using Mixture of Expert Fuzzy Models", International Journal of Fuzzy Systems (IJFS), NOV. 27, 2016.

Reza Yaghoobi Karimu, **Sassan Azadi**, Parviz Keshavarzi " Cardiac Arrhythmia Classification using the Phase Space Sorted by Poincare Sections", Biocybernetics and Biomedical Engineering, Vol. 37, Issue 4, pp. 425-437, 2017.

Reza Yaghoobi Karimu, **Sassan Azadi**, Parviz Keshavarzi, "The ADHD Effect on the Actions Obtained from the EEG Signals", Biocybernetics and Biomedical Engineering, Vol. 35, Issue 2, pp. 425-437, 2018.

Reza Yaghoobi Karimu, **Sassan Azadi**, Parviz Keshavarzi, "The ADHD Effect on the High-Dimensional Phase Space Trajectories of EEG Signals", Chaos, Solitons & Fractals, Vol. 121, Issue 4, pp. 39-49, 2019.

Reza Yaghoobi Karimu, **Sassan Azadi**, Parviz Keshavarzi, "Loss Detection of Recurrence Rate in the EEG Signals of Children with ADHD", Journal of Scientific & Industrial Research, JSIR, April 2019.